

HOUSE No. 808

By Mr. Marzilli of Arlington, petition of J. James Marzilli, Jr., and Steven J. D'Amico for legislation to limit outdoor night lighting, conserve energy and reduce light pollution. Environment, Natural Resources and Agriculture.

The Commonwealth of Massachusetts

In the Year Two Thousand and Seven.

AN ACT TO LIMIT OUTDOOR NIGHT LIGHTING, CONSERVE ENERGY, AND REDUCE LIGHT POLLUTION.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

- 1 SECTION 1. Chapter 85 of the General Laws, as appearing in the
2 2002 Official Edition, is hereby amended by adding at the end
3 thereof the following new sections:—
- 4 Section 37. As used in section thirty-seven A, the following
5 words shall, unless the context clearly requires otherwise, have the
6 following meaning:—
- 7 “Candela”, a unit of luminous intensity.
- 8 “Direct light”, light emitting generally in a downward direction
9 by a lamp, off a reflector, or through a refractor of a luminaire.
- 10 “Full-cutoff luminaire”, a luminaire that allows no direct light
11 from the luminaire above a horizontal plane through the luminaire’s
12 lowest light-emitting part, in its mounted form.
- 13 “Glare”, direct light emitted by a luminaire that causes reduced
14 visibility of objects or momentary blindness.
- 15 “Illuminance”, the luminous power incident per unit area of a sur-
16 face, as measured in lux (lumens per square meter) or foot-candles
17 (lumens per square foot).
- 18 “Lamp”, the component of a luminaire that produces light.
- 19 “Light Pollution”, artificial light directed, reflected, or scattered
20 upward into the atmosphere.
- 21 “Light trespass”, light emitted by a luminaire that shines beyond
22 the boundaries of the property on which the luminaire is located.

23 “Lumen”, a specific standard unit of measurement of luminous
24 flux.

25 “Luminaire”, a complete lighting unit, including a lamp or lamps
26 together with the parts designed to distribute the light, to position
27 and protect the lamps, and to connect the lamps to the power supply.

28 “Outdoor light fixtures”, outdoor artificial illuminating devices,
29 permanently installed or portable, used for flood-lighting, roadway
30 and area lighting, general illumination, or advertisement.

31 “Permanent outdoor luminaire”, any fixed luminaire or system of
32 luminaires that is outdoors and that is intended to be used for seven
33 days or longer.

34 “Roadway lighting”, permanent outdoor luminaires that are
35 specifically intended to illuminate roadways for automotive vehicles.

36 “Semi-cutoff luminaire”, a luminaire whose light distribution
37 restricts the candela per lamp lumen to no more than five percent at
38 angles exceeding 90 degrees above nadir.

39 “State funds”, any bond revenues or any money appropriated or
40 allocated by the General Court.

41 Section 37A. No state funds shall be used to install any new per-
42 manent outdoor luminaire or to replace an existing permanent out-
43 door luminaire unless the following conditions are met:—

44 (a) The new or replacement luminaire is a full-cutoff luminaire
45 when the rated output of the lamp is greater than one thousand eight
46 hundred (1800) lumens;

47 (b) If a lighting recommendation or regulation applies, the min-
48 imum illuminance specified by the recommendation or regulation is
49 used;

50 (c) If no lighting recommendation or regulation applies, the min-
51 imum illuminance adequate for the intended purpose is used with
52 consideration given to recognized standards, including, but not lim-
53 ited to, recommended practices adopted by the illuminating engi-
54 neering society of North America (IESNA);

55 (d) For roadway lighting unassociated with intersections of two or
56 more streets or highways, a determination is made by the department
57 of highways that the purpose of the lighting installation or replace-
58 ment cannot be achieved by installation of reflectorized roadway
59 markers, lines, warnings or informational signs, or other passive
60 means; and

61 (e) Adequate consideration has been given to the conservation of
62 energy and to the minimization of glare, light pollution, and light
63 trespass. The requirements of this section shall not apply in any of
64 the following circumstances, settings or location:—

65 (1) a federal law, rule or regulation preempts state law;

66 (2) the outdoor lighting fixture is used on a temporary basis by
67 emergency personnel requiring additional illumination for emer-
68 gency procedures or used by repair personnel on a temporary basis
69 for road repair;

70 (3) navigational lighting systems at airports and other lighting
71 necessary for aircraft safety;

72 (4) special events or situations that may require additional illumi-
73 nation, including, but not limited to, sporting events and the illumi-
74 nation of historic structures, monuments, or flags; provided however,
75 that all such illumination shall be selected and installed to shield the
76 lamp used from direct view to the greatest extent possible, and to
77 minimize light pollution and light trespass;

78 (5) any urban area where there is high night-time pedestrian
79 traffic which has been examined by an engineer employed by the
80 commonwealth and experienced in outdoor lighting and deemed to
81 be an area where the installation of semi-cutoff luminaires is neces-
82 sary;

83 (6) a state prison, county house of correction or county jail; or

84 (7) when a compelling safety interest exists that cannot be
85 addressed by any other method.

86 The division of energy resources, in consultation with the depart-
87 ment of highways, shall promulgate regulations to implement and
88 enforce this section, including a system to ensure that the use of state
89 funds for street lighting complies with the requirements set forth
90 herein. Said regulations shall include the establishment of a waiver
91 process, to be administered by the secretary of administration and
92 finance or his designee, whereby a state agency, division or depart-
93 ment may apply for and may be granted an exemption by said secre-
94 tary from the requirements of this section on the grounds that a
95 bonafide operational, temporary, safety or specific aesthetic need
96 exists to an extent that warrants such an exemption or upon the
97 establishment by said agency, division or department that the instal-
98 lation and use of the permanent outdoor luminaries required by this

99 section will not be cost effective over the expected use life of said
100 luminaries.

1 SECTION 2. The provisions of this act shall take effect as of
2 November 1, 2007.